

REMARKS

Claims 1-31 are pending in the Application. Claims 1-31 stand rejected. Claim 23 is amended with this reply and claims 26 and 31 are cancelled. Upon entry of the amendment, claims 1-25 and 27-30 remain pending.

Support for the amendment to claim 23 is found in the originally filed specification, for example at claim 31, and paragraph 47 on page 12. Applicant respectfully requests entry of the amendment.

REJECTION OF CLAIMS 1-22

Claims 1-22 stand rejected under 35 U.S.C. § 102(b) as anticipated by or in the alternative under § 103 as obvious over the McBain reference (U.S. Patent No. 5,777,053). The reference is said to disclose gel coats containing a polyester urethane acrylate gel coat resin, with Craynor CN 963 as a preferred resin. The Office Action states that when a reference teaches a product that appears to be the same as a product set forth in a product-by-process claim but made by a different process, the burden of proof is shifted to Applicant. The Office Action then maintains the rejection in light of the McBain reference.

While it is true that a product-by-process claim is not patentable over prior art disclosing compositions made by a different process and having the same structure, it is also axiomatic that structure implied by process steps should be considered when assessing the patentability of product-by-process claims over the prior art. *In re Garnero*, see MPEP § 2113.

The McBain reference does not anticipate or make obvious the claimed invention, because the structure implied by the product-by-process type claim 1 is different from that clearly taught by the McBain reference. That is, Applicants do not take the position that the

product-by-process claim is patentable because a different process is used. Rather, they prove from consideration of the reference and their specification that the structure of the resin recited in Claim 1 is different from the structure of that in the reference.

The McBain reference discloses polyurethane acrylate resins made by preparing an isocyanate terminated polyurethane prepolymer and reacting the prepolymer with a hydroxyl alkyl acrylate to form the urethane resin. Thus, at columns 2 bridging to column 3, the reference states:

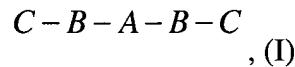
“An aliphatic polyisocyanate is reacted with the saturated polyester intermediate to form a polyurethane type resin....The average equivalent ratio of NCO groups to OH end groups of the intermediate is approximately from about 1.5 to about 2.5...and preferably about 2.0. Such amounts are generally sufficient to form an isocyanate terminated polyurethane prepolymer, which is then reacted with a hydroxyl alkyl acrylate to form the saturated polyester urethane containing an acrylate or methacrylate generally at the terminal portions of the polymer chain. Column 2, line 60 to column 3, line 7.”

That is to say, in the reference, the resin is made by first reacting a polyester with a diisocyanate to form a prepolymer, which is then reacted with the hydroxyl containing methacrylate molecule. The resin of the reference is a reaction product of a mixture containing two components – the prepolymer and the methacrylate molecule.

In contrast, claim 1 recites reaction products of a reaction mixture containing three components. The three components of the reaction mixture at claim 1 are (a) hydroxy-terminated oligoester, (b) a diisocyanate, and (c) a hydroxyalkyl methacrylate. Further, the claim recites the reaction mixture is formed by adding the diisocyanate to a blend of the oligoester and the hydroxyalkyl methacrylate. The structure implied by the process steps of claim 1 is different from that of the reference.

As developed by Applicants in their November 18, 2004 reply, the contents of which are incorporated by reference, the specification explains how the structure is different. For example, at paragraphs 16 and 17:

“In a preferred embodiment, the resin of the gel coat is a reaction product of (a) an oligoester of weight average molecular weight (M_w) about 200 to 4000, (b) a diisocyanate, and hydroxyalkyl methacrylate(C)... . A urethane-acrylate gel coat resin of the present invention has an idealized structure (I)



wherein (I) is the reaction product of an oligoester (A)..., a diisocyanate (B),... and a hydroxylalkyl (meth)acrylate (C)

A urethane acrylate gel coat resin of the present invention is a reaction product of A, B, and C, thus other reactions species are generally present in addition to a resin of idealized structure (I).”
Emphasis added.

The structure of the product of claim 1 is further described, for example at paragraph 34:

“The oligoester ... is blended with the hydroxyalkyl (meth) acrylate, followed by addition of the diisocyanate. The resulting reaction leads to a mixture of products, including a species having the idealized structure (I).”

The specification distinguishes the resin of claim 1 from that discussed in the McBain reference and in the Straus reference that gives the structure of the preferred Craynor 963 resin.

For the reasons discussed above and in previous Office Actions, Applicants respectfully submit that product-by-process claim 1 and the dependent claims 2-22 patentably distinguish over the references cited for the reason that the structure implied by the process steps recited is different from that in the prior art. Accordingly, Applicant respectfully requests the rejection be withdrawn.

REJECTION OF CLAIMS 23-31

Claims 23-31 are rejected under 35 U.S.C. 103(a) as patentable over the McBain reference (U.S. Patent No. 5,777,053) in view of Bristowe (U.S. Patent No. 4,213,837), Craven (U.S. Patent No. 4,346,144), Sadvary (U.S. Patent No. 6,225,434), and the Boisseau reference (U.S. Patent No. 6,391,390). Applicants respectfully traverse the rejection as applied to the amended claims and request reconsideration.

Novel claims are non-obvious and therefore patentable over a combination of references unless the invention as a whole would be obvious to a person of skill in the art based on the teachings of those combined references. Because in a certain sense every new invention is a combination of known elements, care must be taken to avoid impermissible hindsight in the reconstruction of the claimed invention from separate teachings of the prior art. In particular, the Applicants claims should not be used as a roadmap to piece together the prior art teachings to arrive at the subject matter of the claims.

As stated in the Office Action, claims 23-31 contain many novel features over that disclosed in the prior art. The McBain reference teaches a resin made by a different process and having a different structure. The reference further does not specify a mixture of benzotriazole and hindered amine light stabilizers. As applied to the amended claims, the reference does not disclose compositions that are curable at room temperature up to 50°C.

The Bristowe reference is cited for a teaching of an alternative way to put together a polyurethane resin, which is then combined with the McBain reference to suggest portions of the claimed invention. However, such a combination overlooks particular teachings in the Bristowe reference that would discourage someone from making the combination. For example, as elaborated in earlier responses by Applicant, the Bristowe reference discloses particular urethane

resins having specific structures of polyoxyalkylene bisphenol A polyesters, and the like. It appears to be drawn to UV curable resins rather than the thermally curable gel coat compositions of the claims. These and other differences illustrate that, while the references certainly can be combined in the way suggested by the Examiner, the person of skill in the art would not be motivated to combine teachings in that way, because of all of the other differences.

In a similar way, the Craven reference is cited for its teaching of synergy of a combination of stabilizers in acrylate coatings. While it is true that the reference describes such a combination, it must be kept in mind that the teaching is for use in acrylate coating, which are different from the gel coat compositions of the claims and from the curable compositions of the other references. In a similar way, the Sadvary reference discloses Tinuvin 928 and 123 in an acrylic/melamine cured resin. Further, the Boisseau discloses the use of Tinuvin 928 and 123 in a clear coat, not a pigmented gel coat as in the claims.

Applicants do not take the position that claims cannot be rendered obvious with a combination of a multiplicity of references. However, Applicants respectfully submit that, in the current case, combination of the references to arrive at the subject matter of the amended claims is achieved primarily through using those amended claims as a roadmap to piece together separate teachings of the art references. Although individual elements of the amended claims are present in the prior art, Applicants respectfully submit that the invention as a whole would not have been of obvious to a person of skill in the art. Accordingly, Applicants respectfully request that the rejection of claims 23-31 as applied to the amended claims be withdrawn.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Prompt and favorable consideration of this amendment is respectfully requested. The Examiner is invited to telephone the undersigned if that would be helpful to resolving any issues.

Respectfully submitted,

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By: Mark A. Frentrup
Mark A. Frentrup
Reg. No. 41,026
Attorney for Applicants

Harness, Dickey & Pierce, P.L.C.
P. O. Box 828
Bloomfield Hills, Michigan 48303
(248) 641-1600

CORRESPONDENCE ADDRESS:

Kathryn A. Marra
General Motors Corporation
Legal Staff - Mail Code 482-C23-B21
PO Box 300 - 300 Renaissance Center
Detroit, Michigan 48265-3000
Ph: 313-665-4708
Fax: 313-665-4976

MAF/cg